

Notice of Allowability

Application No.

10/665,590

Examiner

Janis L. Dote

Applicant(s)

YAMANOUCHI ET AL.

Art Unit

1756

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to 7/20/05.
2. ☒ The allowed claim(s) is/are 35-58.
3. ☒ The drawings filed on 18 September 2003 are accepted by the Examiner.
4. ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
 - a) ☒ All b) ☐ Some* c) ☐ None of the:
 1. ☒ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

* Certified copies not received: _____

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.

THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.

5. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.
 6. ☐ CORRECTED DRAWINGS (as "replacement sheets") must be submitted.
 - (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review (PTO-948) attached
 - 1) ☐ hereto or 2) ☐ to Paper No./Mail Date _____.
 - (b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date _____.
- Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).
7. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

Attachment(s)

1. ☐ Notice of References Cited (PTO-892)
2. ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3. ☐ Information Disclosure Statements (PTO-1449 or PTO/SB/08), Paper No./Mail Date _____
4. ☐ Examiner's Comment Regarding Requirement for Deposit of Biological Material
5. ☐ Notice of Informal Patent Application (PTO-152)
6. ☐ Interview Summary (PTO-413), Paper No./Mail Date _____
7. ☒ Examiner's Amendment/Comment
8. ☒ Examiner's Statement of Reasons for Allowance
9. ☐ Other _____

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1. This office action is responsive to the amendment filed on Jul. 20, 2005, after the final office mailed on May 20, 2005. The examiner acknowledges the cancellation of claims 1-34 and the addition of claims 35-58 set forth in the amendment filed on Jul. 20, 2005. Claims 35-58 are pending.

EXAMINER'S AMENDMENT

2. An examiner's amendment to the record appears below. Should the changes and/or additions be unacceptable to applicant, an amendment may be filed as provided by 37 CFR 1.312. To ensure consideration of such an amendment, it MUST be submitted no later than the payment of the issue fee.

Authorization for this examiner's amendment was given in a telephone interview with Mr. Donald C. Lucas (Reg. No. 31,275) on Aug. 1, 2005.

Claims 42, 44, 50, and 51 have been amended as follows:

In claim 42, at line 2, delete the word "additive" and insert the word -- additives is --.

In claim 44, at line 2, delete the word "and" and insert the word -- or --.

In claim 44, at line 3, delete the phrase "ester-base compounds are - and insert the phrase -- ester wax is --.

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In claim 50, at line 2, delete the word "additive" and insert the phrase -- additives is --.

In claim 51, at line 10, delete the word "additive" and insert the phrase -- additives is --.

3. The examiner's amendment to claims 42, 50, and 51 provides unambiguous antecedent basis for what provides the ratio of surface coverage of toner recited in instant claims 42, 50, and 51.

The examiner's amendment to claim 44 avoids the rejection under 35 U.S.C. 112, second paragraph, set forth in the office action mailed on May 20, 2005, paragraph 8. The amendment also provides proper antecedent basis for what is represented by the formula recited in instant claim 44.

REASONS FOR ALLOWANCE

4. The instant specification has defined following terms recited in the instant claims:

(1) The term "shape factor" is defined at page 20, lines 1-10, as "a value for expressing a degree of roundness of the toner particle, and is given by the equation below:

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Shape factor = $((\text{maximum diameter}/2)^2 \times \pi) / (\text{projected area})$." The parameters "maximum diameter" and "projected area" are defined at page 20, lines 5-10.

(2) The "arithmetic mean value of shape factor" is determined by the method disclosed at page 20, lines 11-18.

(3) The term "coefficient of variation of shape factor" is defined at page 20, line 19, to page 21, line 3, by the equation

Coefficient of variation of shape factor = $(S_1/K) \times 100(\%)$, where S_1 represents standard deviation of shape factors of 100 toner particles, and K represents an average value of the shape factors.

(4) The term "rounded toner particle" is defined at page 22, lines 6-9, as "a toner particle substantially having no projected portions, and more specifically to a toner particle" as described at page 22, lines 9-24, and in Fig. 2A. The ratio of rounded toner particles to 1000 toner particles is determined by the method disclosed at page 23, lines 5-10.

(5) The term "coefficient of variation of number particle distribution" is defined at page 24, lines 8-11, by the equation

Coefficient of variation by number = $[S_1/D_n] \times 100$,

where S_1 represents the standard deviation in the number particle diameter distribution, and D_n represents the number average particle diameter (μm). The parameters of the equation

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are determined by the method disclosed at page 23, line 13, to page 24, line 4.

(6) The term "conveyance index" is defined at page 15, lines 4-8, as an "index of conveyance property of the toner particle typically obtained by measurement using the parts feeder shown in Fig. 1 under constant vibration, and expresses how readily the toner can be conveyed, or in other words, mobility of the toner." The conveyance index is calculated by the equation disclosed at page 16, line 23, to page 24, line 4,

$$\text{"Conveyance index"} = (750-300)\text{mg}/(T750-T300)\text{sec},$$

where T300 is a time required for transferring 300 mg of the toner to the pan 7 [of the feeder in Fig. 1], and T750 is a time required for transferring 750 mg of the toner to the pan 7."

(7) The term "salting-out/fusion-adherence process" is defined at page 58, lines 19-23, as "salting-out (coagulation of particles) and fusion (disappearance of particle boundary) process at the same time, or means any action causing salting-out and fusion-adherence at the same time."

5. The following is an examiner's statement of reasons for allowance:

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The objection to the specification set forth in the office action mailed on May 20, 2005, paragraph 5, has been withdrawn in response to the amended paragraphs at pages 39, 54, 59, 66, and 74, of the specification, set forth in the amendment filed on Jul. 20, 2005.

The rejection of claim 28 under 35 U.S.C. 112, second paragraph, set forth in the office action mailed on May 20, 2005, paragraph 8, has been mooted by the cancellation of claim 28.

The rejection of claims 1-5, 21-23, 25, and 28-31 under 35 U.S.C. 102(b)/103(a) over US 2002/0037469 A1 (Kohyama), as evidenced by Grant & Hackh's Chemical Dictionary, 5th edition, page 357, set forth in the office action mailed on May 20, 2005, paragraph 11, has been withdrawn in response to the cancellation of claims 1-5, 21-23, 25, and 28-31, and the addition of new independent claims 35, 45, 51, 52, and 55, which recite the limitations of now-cancelled claims 26, 6, 24, 32, and 34, respectively. Claims 35, 45, 51, 52, and 55, and claims dependent thereon, are allowable over the cited prior art for the reasons discussed in the office action mailed on May 20, 2005, paragraph 12, which are incorporated herein by reference.

As discussed in the office action mailed on May 20, 2005, paragraph 12, Kohyama teaches that its toner particles are

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obtained by "a salting-out/fusion-adherence process" of resin particles and a colorant particle in a water-based medium that meets the product-by-process limitation recited in non-cancelled claims 6 and 34, which have been rewritten as claims 45 and 55, respectively. However, Kohyama does not disclose the softening point of the resin particles used. Nor is there enough information on the present record for a person having ordinary skill in the art to reasonably presume that the resin particles disclosed in Kohyama have a softening point of 90 to 140°C as recited in claims 6 and 34.

Kohyama does not disclose that the external additives in its toner provide a ratio of surface coverage of 40 to 100% of the toner as recited in now-cancelled claim 24 that has been rewritten as claim 51. Nor is there enough information on the present record for a person having ordinary skill in the art to reasonably presume that the toner disclosed in Kohyama has the ratio of surface coverage recited in claim 24.

Kohyama does not exemplify a toner comprising an external additive having a number average primary particle size of 100 nm to 2,000 nm recited in now-cancelled claims 26 and 32, which have been rewritten as claims 35 and 52, respectively, and having a toner conveyance index as recited in claims 26 and 32.

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6. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Janis L. Dote whose telephone number is (571) 272-1382. The examiner can normally be reached Monday through Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Mr. Mark Huff, can be reached on (571) 272-1385. The central fax phone number is (271) 273-8300.

Any inquiry regarding papers not received regarding this communication or earlier communications should be directed to Supervisory Application Examiner Ms. Claudia Sullivan, whose telephone number is (571) 272-1052.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

JLD

Aug. 1, 2005

Janis L. Dote
JANIS L. DOTE
PRIMARY EXAMINER
GROUP 1500
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